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De Lunæ Eclipsibus tacui ferè, quippe quas amicus quidam in Ephemeride sua accuratius à Theoria Horrocciana supputavit. Saturni & Jovis ad fixas appulsus per noctes aliquot cum præcedentes, tum diem, in tabula conjunctioni conscriptam sequentes observare licet: Jovisque citius quippe ejus in phemeride Heckeriana motus 13' min. justo tardiores hoc anno reperiuntur. Commodum foret, etiam ad transitus δ^{iii} , η^{ii} , & ζ^{ii} per fixam nocte tum præcedente tum sequente eam in tabula exaratam attendere, ne ipso tempore minus sit serenum Cælum; quod Cælipspicibus serenius quam per elapsum annum expertus est, hisce Phainomenis observandis exoptat. Derbyæ Dec. 3. 1673. J. F.

An Account of some Books.

1. PHARMACEUTICE RATIONALIS, sive Diatriba de Medicamentorum Operationibus in Humano corpore: Auth. Tho. Willis M.D. in Univ. Oxon. Prof. Sedlejano, nec non Coll. Med. Lond. & Societ. Reg. Socio. E Theat. Sheldoni. 1673. in 4°.

THE Design and Business of this Instructive and Useful piece is, To give the Mechanical reason of the operation of all sorts of Medicines upon the Animal spirits in Mans body, and after what manner and how many ways they ferment the Blood and Humors in the same. For the clearer understanding of which, the Excellent Author premiseth an exact Description and Representation of the Stomach and Bowels, in which those Animal Spirits do lodge, and are first of all by the particles of the medicine wrought upon. In the doing of which, he hath in a very accurate manner examined those parts, from the very Mouth to the end of the Bowels; and in each of them very elaboratly laid open their Nervous, Muscular and Glandulous membrans, and shew'd the several positions of fibres in them, lying long-ways, transverse and oblique, some meerly serving for sense, others for variety of motion; together with the curious woof of the Arteries and Veins, and the rare contrivance of numerous Glanduls.

This being dispatch'd, he makes it his business to explain the principal thing propos'd, which, he saith, hath been hitherto one of the *Desiderata* in Physick, viz. In what manner, and by what kinds of impression upon the parts of an Human Body, Medicaments perform their operations, that is to say, How and Why some Medicins are Vomitive, some Purgative, others Sudorifique,

dorifique, others Diuretique, some Alterative, some Cordial, some Opiate ; what is the similitude or dissimilitude of the parts in the agent and patient ; what their pulsion and reaction ; by what kind of struggling or fermentation they, when mixt, are stirred, and by what mechanism or power they produce their several effects ? Which things he conceives are not duly solv'd by the vulgar doctrine, importing, that Medicaments do work and exert their peculiar powers by certain specificque vertues ; this solution explaining *idem per idem*, and speaking no more than that *e.g.* some medicaments are vomitive, because they are endued with a faculty or power to make the Patient vomit. Wherefore, to satisfie intelligent Readers, he undertakes by a kind of Mechanical way to shew, How Medicins work upon our Bodies, so as to make them, at pleasure, to cause or stop excretions, to raise or allay ebullitions, to remedy the distempers and to remove the disorders of this or that part, &c. In the doing of which he *first*, in reference to the operations of medicines, distinguishes the *Places*, in which they do chiefly exert their vertues, which are *either* the *prima via*, or the Mass of blood with the *viscera* belonging thereto, or the Brain and the Nervous Systeme, with their appurtenances. *Secondly*, he considers the *Immediat Subjects*, on which the medicines operate, which are either the *Animal Spirits*, or the *Humors* : In respect of which he teaches, that Physick taken inwardly does work *either* immediately upon the Animal Spirits, such as lodge in the fibres of the Gullet, Stomach, Bowels and other channels in the *prima via* ; or by means of the Blood upon those that reside in the Brain or the Fibers of farther distant parts. When the vertue of medicines reaches to either of these, they either provoke them to excretory motions, or enlarge and refresh them, or allay their disorder, or assuage their fury. As to the *Humors*, on which the Medicaments impress their vertues, they are the Ferments of the Stomach and Gutts, as also the Blood with the Nutritious Juice, and the recrements, as the Serum, the Bile, the Pancreatick Juice, the Lymphatick and Nervous liquor ; on which either singly, or plurally, Medicines do work divers ways, either by precipitating them, or by reducing them from that state ; sometimes by rowling them when lizy, or by assuaging them

them when furious; sometimes by altering them when disorder'd in quality, consistence, temperament, &c.

The *Method*, which he observes in treating of all these particulars, is suted to the *places*, wherein Medicines do first of all or primarily exercise their virtues: In regard to which, he begins from

Vomitives, shewing, how the *Gullet* and *Stomach* are affected by them; by what Fibers this Convulsive motion by vomits is made; how it differs from other Convulsions, and from the Evacuation by stool; and that the proximate cause thereof is a vehement Explosion of the irritated Spirits in the fibers of the Carneous tunicle. He inquires next, in what manner Emetic medicines do work; how they differ from Purgatives; why *these* work more gently, *those* more violently; what kind of matter is voided by vomit; the Accidents of vomiting; why in some 'tis perform'd sooner, in others later; in some 'tis stop'd more easily than in others; what care to be had of the dose? why Vomiting is more efficacious, though more dangerous than Purges? He teaches also, that Vomitives work not by a specificque vertue, nor upon peculiar humors; and informs us, what are the Indications or Contra-indications to Vomiting; what the chief Vomitives, their Receipts, Præparations, and Reason of their operations? What are the Cures of too much Vomiting; what the Remedies against the vitiated ferment of the Stomach; how to cure vomiting caused by the Stomach's debility; viz. when either the Tone of the Fibres is weakned, or the Nerves obstructed?

Hence he proceeds to *Purgatives*, shewing, what matter is evacuated that way; how the excretory motion is naturally perform'd, and by what fibres; how 'tis push't on? That Purging medicines work not by attraction, nor election, but by *Irritation* in the *prima viæ* and by *Fermentation* in the Blood and Humors. Observing the Differences of Purgatives, and the reasons thereof; how they irritate in the *viscera*, and ferment variously with the blood and humors? That the Præparation of the humors is not necessary to purging; yet what an *Apparatus* there is requisite both as to the Stomach, and the Blood; from what kind of particles depends the purgative power, both the Irritative and Fermentative? The *former* not from Spirit, Water,

ter, or Earth, nor from Salt or Sulphur singly, but from both Jointly; the *latter* almost alone from Salts. The various sorts of Purgatives and their forms, together with the Causes of their working, and an inquiry, why *Purging* medicines are very seldom prepar'd of Minerals, though *Vomitives* and *Diaphoretiques* often? Then the remedies against an *Hypercatarrhs*, and a Narrative of the *London* Dyfentery, and the method of Curing it; with several Examples.

As to *Diureticks*, he explains first the affinity between them and *Diaphoreticks*; then shews, of what liquors the matter of Urine is made up, how the *serum* is sever'd from the Blood in the Kidneys, together with the Structure and use of that part? That that separation is made by percolation, yet not without the assistance of a ferment. The Secretion of the *serum* from the blood is ingeniously cleared up by the curdling and un-curdling of Milk; and some ways deliver'd of procuring, hindring, and removing Coagulation. There are also inserted several Experiments of Chymical liquors powred on hot Blood, and the Alterations ensuing thereupon. That the Blood must be preserv'd both from too great thinness, and too much incrassation, if it shall make a due deposition of its *serum*. Further, he distributes *Diureticks* as to several scopes, to matter, and form; gives several Receipts of them, both of such as have a Volatil, or a fixed Salt, or spirituous or sulphureous particles for their basis; adding their respective ways of operation: To all which he subjoins the Preparations of *Sal prunellæ*, Spirit of Niter, Sea-salt, Urine; as also of the Tincture of Salt of Tartar, of the Sulphur of wine, and of the Salt of Amber. This head he concludes with the History of the Disease called *Diabetes*, together with its Cause, and Cure.

Follow the *Sudorificks*. Where he first intimates the difference of Sweating from other Evacuations; and then, having explained the matter of Sweat, he teaches not only the requisites to copious sweating, which are, a more rapid circulation of the blood, a looser contexture of its parts, and an openness of the pores of the skin; but also the differences of sweating: Adding the several kinds and various receipts of Sudorifick medicines; and amongst them the Preparation of the *Bezoardicum Minerale*, the *Antimonium Diaphoreticum*, the *Flores*

of the *Sal Armoniac*, the *Spirit of Soot*, *Guajacum*, *Box*, *Tartar*, &c: And concluding this part with the Consideration of too plentiful or depraved Sweating, and the way of curing both ; where occurs a Learned Discourse concerning the Aptness of taking Cold ; and another, of the *Sudor Anglicus*, enriched with notable Examples, and the Method of their respective Cures.

Treating of *Cordials* and *Alexiterials*, he observes *first*, that those Medicines are altogether improperly said to succour the Heart, whereas they rather work upon the Blood and the Animal Spirits than the Heart : *Then* he teaches, what remedies are proper for the Blood, to mend its crasis, or its defective or excessive accension ; and what are fit to relieve the Spirits, either by appeasing or quickning them. To which are joyned divers Receipts of Cordials and Alexiterials, together with the way of preparing them. Besides, under this Head are consider'd the *Passions of the Heart*, its Trembling and Palpitation, proceeding not from a Convulsive motion of the whole Heart, but from a stop and regurgitation of the Blood about the roots of the appendant vessels, and sometimes from other causes. Here also 'tis taken notice of ; for what use there are store of nerves inserted in the tunics of the Arteries, *viz.* To convey Spirits to their Motive and Muscular fibres. Where occasionally 'tis observed, that an Artery is mov'd like the Heart, by a muscular motion ; which is illustrated by a curious and exact Anatomical description of an Artery. This Head is enlarged with the several remedies of curing the Passions of the Heart.

Lastly he treats of *Opiats* ; shewing, How they affect the Animal Spirits ; in what kind of particles their force consists ; in what places they first begin to work ; how far their virtue extends, and to what parts ; what are the good and bad Effects of Opiats ; how they may allay pain without sleep ; what relief they yield in the Stone and Gout ; what help they afford to a disorder'd Pulse, and to Respiration ? What mischief they may work, and after what manner ? How the Turks and other devourers of Opiats are wont to be affected by them, and why they are able to take it in great quantity without harm ? And what Cautions are to be observed in the Use of them ? To all which he adds the several sorts, Preparations, and Receipts
of

of Opiats: Where he takes occasion to discourse of the nature of *Opium* it self, and of the parts wherein the Narcotick force consists; shewing withall by Experiments, that it works not equally in all Animals, and particularly not in Doggs, as it doth in Cats and Men; teaching also the preparation of *Opium*, and reckoning up the Opiats both of the Antients and Moderns; and further instructing his Reader, that the best *Menstruum* for making liquid *Laudanum's*, is Spirit of Wine impregnated with the volatilized salt of Tartar; this having a peculiar vertue of speedy dissolving the mass of *Opium*, of taking a Ruby-like tincture, and of somewhat subduing its Narcotick sulphur, and taking away its strong smell. He concludes the whole with his description and opinion of *Helmonts Laudanum*; and with his thoughts of *Tobacco* and *Coffee*.

II. *Johannis Hevelii MACHINE CÆLESTIS Pars prior, ORGANOGRAPHIAM ASTRONOMICAM plurimis Iconibus illustratam & exornatam exhibens, &c.* Gedani, 1673. in fol.

THe famous Author of this Work, having given us in the Preface a learned Accompt of the Origin and Progress of Astronomy, and of the Succession of the chief Astronomers from the beginning, (amongst whom he accounts the most eminent to have been *Hipparchus*, *Ptolomy*, *Copernicus* and *Brabe*;) and having also taken notice of the Advancement made of that Science in our Age, in *England*, *Germany*, *France*, *Italy*, &c. and consider'd withall, that without a due Restitution of the *Fixt Stars* to their places, nothing considerable and accurate could be perform'd by Astronomers for establishing the Motion of the Planets, and for perfecting Astronomy; He tells us, that he resolv'd to addict himself with all care and diligence to that work: For the prosecution of which, a great *Apparatus* of Instruments being requisite, he giveth us in this *Volume* an ample Description of them, together with his way of examining and rectifying the same: Reserving the *Observations* themselves for another *Volume*; which he intimates to be already committed to the Press.

In this *Tome* then, he *first* treats in general of the Instruments used both by the Antients and Moderns, and of what is chiefly remarkable in them. *Secondly*, he describes in particu-

lar his own Instruments, both small and great, especially those that are made of solid metal, his Quadrants, Sextants, Octants, with all their appurtenances, and an account of their uses, divisions, sights, &c. *Thirdly*, forasmuch as Astronomy hath been greatly improv'd by *Telescopes*, he takes occasion to mention, what *Glasses* have been made by himself, and others, especially one that draws 140 foot, made and presented to him out of *Poland* by Signor *Burattini*; for the erecting of which, in a Tube of that length, our Author relates his contrivance, which he affirms to be such, that by the advantage thereof it can be as easily and readily managed as a Tube of 20 foot. *Lastly*, he subjoineth a discourse of his skill and way of grinding Glasses of an *Hyperbolic* figure, and of his actual performances therein; the prosecution of which he recommends to those that are professed Opticians and Artists; his many other studies and labors not permitting him to indulge himself further in that work.

His thoughts of *Telescopical Sights*, and his Exceptions against them, deliver'd pag. 294. & seqq, we leave to the consideration of those, that prefer them to the *Common* ones.

III. *A Treatise of the BULK and SELVAGE of the World, &c.*

By N. Fairfax, M.D. London, 1673.

I Must here avow to the Reader, that I was once at a stand what to say of this altogether *Speculative* Treatise, which I found so un-common both for Matter and Form, that I much doubted my fitness of giving the Author his due; yet considering further the Nobleness of the Subject, and the Learned Authors Acuteness in handling it, I resolv'd to adventure the following Account.

He undertakes then in this Book to evince against divers Writers, that, as *Immensify* and *Eternity* are Attributes only due to the Great Maker of the Universe, so *Room* and *Time*, *Bounds* and *Successive Duration* belong to the World and all Bodies contained therein; that as the World hath Beginning and End, so when we come to the Rim of the world (which I take to be the same with the Author's *Se'vedge* of the *Eulk*,) there is all, and nothing at all beyond it.

But then to make a good step towards the knowledge of what the World ought to be to *Us*, whom he supposes to be
Body

Body and Spirit both together, he informs us, what the World is to such Being or Beings as are *Spirit* altogether, in contradiction to *Body*. Where considering *Room* and *Time*, and laying the one to Gods *Immensify*, and the other to his *Eternity*, he concludes, that *Room* will not bear a coextension to the former, nor *Time* a lengthening out with the latter; but that they are different altogether. And here he disputes against those Authors, that would maintain *Eternal TIME*, and Boundless *BODY*; endeavouring to make it out, that all *Time* is a *Now* to Gods *Eternity*, and all *Bulk* a *Point* to his *Immensify*: Taking also occasion to prove, that *Room* is no where but where *Body* is, and *Spirit* (in the strict notion of the word) no more in *Room* than *Thought* is, and as far from taking up *Room*, as 'tis from putting on *Body*.

Having thus discoursed, what *Body* is to *God* and *Spirit*, he considers, what *Body* is to *Body* and *Us*. In the doing of which, he undertakes to shew, 1. How far *Body* or the World of Bodies may be stretcht out? 2. Into what smallness a Piece of *Body* may be crumbled? 3. How swift or how slow either may be moved? And 4, because the stuff of *Body* is of a more sitting kind, than the substance of *Spirit*, he inquires, How long it hath or might have already been, and how long it doth or may last? 5. Forasmuch as *Body* may shift its Being as well as its Seat, he examines, Whether there may not have been some Bodies or Worlds heretofore, which now are not? Lastly, since one may be a great way distant from another, he inquireth, Whether some are not so far from our place, as to be far also from the World in which we are placed?

In the *first* of these, he examines Dr. *More's* opinion about a *boundless Extension* made by him as needful as *God* is; and, upon occasion of the said *Doctors* objection, denies, that an Arrow can be shot beyond the rim of the World, or an Arm born out of it, the very Frame of the world hindring it as much, as the stiffest bodies obstruct passage.

In the *second*, he endeavors to shew, that as a *Body* by putting to it cannot be magnified beyond a certain bulk, so by taking from it cannot be lessened beneath a certain smallness; since that which is not boundless one way, cannot be so in its little part. And here he labors to put an end to that puzzling question, Whether a *Body* be made up of a throng of *Indivi-*

*fib*le parts? which being affirmed and maintained by him, he is solving the Objections of those that hold the *Divisibility* of body *in infinitum*.

In the *third*, concerning *Motion*, he seems to have well considered the doctrine of *Elasticity* or Springiness, touching which he affirms, that though it be not Motion, yet 'tis the *Beginning* and as 'twere the *Seed* of it, and made purposely for it; and that, as Motion *begins* in a *Conatus* or *Bearing*, so it *ends* in the same: Alledging further, that as a stirr'd body is never at rest or in pause at all, but always either stirring or bearing (which *bearing* is no more rest than stirring;) so he cannot be charged with the uncouthness of a Bodies recovering Motion of it self, after the dying or breaking off of that which moved it; since that cannot be said to be recovered which was never lost, and Motion is not lost, but only lockt up in the *Elater* or Bearing; forasmuch as the *bearing* is the *Well-spring* of Motion, as Motion is the *Off-spring* of Bearing: As the darting power in the Hand or Soul is not Motion, but the Spring of all that Velocity that is given to things projected; which Spring of motion or Elater, as well as the Motion flowing from thence, he conceives is also thrown off together with the projectile, it seeming to him impossible, to make over Motion that may be lasting without a Spring of swiftness, and as impossible to continue a swiftness without the renewing of such a Spring. Whence he takes occasion to explain *Vegetative* motion, and the Nature of *Begetting* ones like, which to him is nothing else but the *Making over of Springs*; as *Seed*, in his opinion, is nothing but a Cluster of bubbles closely engaged together, or a Bottom of Springs closely girt or knit together, which being loosen'd when sown, by the bedewing of the mould soaking in between its crevices, the springs do swell, and the hollows are made wider, &c.

The *fourth* Question he answers, that the World had beginning, and that beginning the world sooner and sooner, would never make it Eternal. Here he takes occasion to evince, that the World is somewhat besides God, refuting those that hold, the World might have been from Eternity. Which done, he maintains, that a Time may be fastn'd on, beyond which the world shall not hold. To the *two last* Questions he answers, That the Plurality of Worlds as much as the Earliness of them
stands

stands upon the same untrusty bottom; and holds it rational to think, the World could not have been sooner, nor bigger, nor more; and that more, or bigger, or earlier worlds would not better declare the Power, Eternity and Immensity of God, than this world doth. For should God have made worlds before or besides this, that so his works might hold a fuller proportion with his *Everlasting* and *Almighty* power, it would not have answer'd that End. For should he have made any worlds many thousands of years before this, there would have been still the same *Everlasting* power before all such worlds, as is before this, and no less: And should he make other Worlds together with or wide of this World, there would be the same *Almighty* power beyond them, that is beyond this.

IV. *Apologema pro URINIS HUMANIS*; Authore Antonio Eygel M.D. & Practico Amstelodamensi. Amstelod. 1672. in 8°.

THis piece, written in the Belgic tongue, consists of 3 Parts: The *first* contains a Defence of the necessity and usefulness of inspecting and well considering the Urine in Diseases; maintaining against those who despise or neglect that consideration, that thence a more general and better Diagnostick can be taken, than from the Pulse it self; because it is part of the *serum* or vehicle of the Blood, with which it runs through all the parts of the Body, and consequently carries off with it self something of the morbidic *mixtum* or pollution of the same; whereas the *Pulse*, being nothing else but a propulsion of the blood into the Arteries and Veins, made by the Heart, can do little more than discover the discomposed state of the Heart, and possibly the hot or cold constitution of the Body: The same being also very deceitful, forasmuch as 'tis subject to very many alterations from the Exercise of the body and the Passions of the Soul, especially Fear, Anger, Love. Besides which, the Author alledges his own Experience of having found such a Pulse in some Healthy persons, whence any one might have concluded, they were not able to live 24 hours; as also of having met with divers intermittent pulses, and amongst them with one that had ceased, as to his sense, for the space of three meals, and yet all those Patients recovered. He concludes this part with some considerable Examples of his own happy discernment made from the Inspection of Urines; by which also he affirms he hath been enabled

to know, when the Patient was cur'd, and when not : Infomuch that he hath often warn'd the sick, when they would give over Physick, to beware of the danger yet impending on them ; as he hath frequently taken them off from using more physick, when they had a mind to take more.

The *second* part comprehends a Description of human Urines, confirmed by his own Observations of *thirty six* years, and the Authority of Divers Writers. Where the Author first lays down the standard to Judge *healthy* Urine by, such as is made by a sound body of 30 or 40 years of Age; *viz.* That 'tis of a Citron colour, remaining such as tis made, of a moderate both thicknes and copiousness, having also a competent sediment, and a due (somewhat strong) smell: Though as to the *sediment* he notes, that in hot Countries, where a great evacuation is made by the pores of the Body, *that* is found not so considerable, in healthy persons, as in cold and moist Climats. As for those, that alledge the death of some Patients with healthy water, even in times free from the Plague and malignant Fevers, he is perswaded, that they are either unskilful in Urines, or prejudiced concerning them, since it seems to him not more possible, that a man should dye with a healthy urine, than with a sound body and blood ; forasmuch as the urine is mixt with the blood and Spirits through the whole body. And to those that pretend urine to have a healthy appearance in diseases seated in the Spirits, he answers, that he never could find it so, but that upon an intent view such Spirits appear'd like a fiery damp on the top of the Urine, and therefore he would have no body hold their noses over an open Urinal of such water.

Further, he assigns the time for inspecting the Urine, *viz.* when the Concoction is made, not whilst 'tis making, nor long after 'tis made ; in short, the first water after sleep. Then he directs when to Judge of it, *viz.* not as soon as 'tis made, but when 'tis settled, that is, an hour or two after the excretion ; as also, what place 'tis to stand in, to wit, neither in a cold nor hot one, because as the former hinders the settling, so the latter raises the color, and, when 'tis exceeding, causeth even an ebullition, which destroys what should swim in it. Again, the Urine must not be viewed in the Sun, nor by Candle-light, for fear of occasioning false colors ; but in a place neither dark nor bright, holding it at a middle distance. Neither must it be shaken at first when 'tis to be viewed, the better to discern all ; though it may be afterwards, the better to distinguish the things swimming in it. And in the Plague, great pain, and inflammation, it ought to be inspected, first from the top, and then from the bottom.

Next, he considers, what external or adventitious things may cause an alteration in the Urine ; as Rubarb and Saffron may give it a high colour, and a Salat eaten, a greenish ; but this, *he saith*, passes away in three or four hours. Amongst these External things he takes notice of the Temperament, Sex, and Age of people ; all which
may

may cause several diversities in Urine, to be heeded by all circumspect Physicians. Then he notes the effects of the things called *not natural* upon Urine; whence those that live in a hot Air, and such as do violent, and especially Venereal, exercise, must needs make a high-coloured water.

After this, he examines, what may be discover'd by the Inspection of Urines, and maintains, that thence may be known the Disease, its Cause, Part affected, and Symptoms, *viz.* from the *Substance, Copiousness, Qualities, and Contents* of the Urine: All which he deduceth at large and very particularly.

Concerning the *Substance* of Urine, he distinguish's it into thick or thin, clear or troubled, oily or not oily; and assigns the Causes of each, and their respective significations.

Touching the *Copiousness*, he observes, what quantity of Urine is generally made by sound people? What the cause is of much urine, and what the sign thereof; as also what may be collected from Urine made in a smaller quantity than ordinarily?

As to the *Qualities*; and first the *Smell* of Urine, he teaches, what may be inferred from thence? That divers causes may render it fetid; that some things taken inwardly retain their smell in the Urine, as Turpentine; that some things bred in the body make the water stinking, or at least of a very strong smell, as Ulcers, and purulent matter, especially if it be not digested to a whiteness.

Then for the *Taste* of Urine; that naturally it is saltish and sulphureous; and that 'tis alter'd by the mixture of certain humors abounding in the body; which of what kind they be, is discernable by the Taste, to be made by the Patient himself, and to be told to the Physician.

As to the *Colors* of Urine, he reckons up what are the most remarkable ones, *viz.* *White, Yellow, Red, and Black*; to which he reduceth pale and citron colour, high-red, green, blew: And then he teaches, what are the general causes of the Colors of Urine? What are the causes of those particular colors, and what they denote? where he examines very particularly the cause & danger of the Blackness, Greenness, and Blewness of Urine, and inquires, which is worse, *black* or *blew* Urine? Relating, that, though *Galen* affirms, he never saw any one escape death, that made black water, yet he (the Author) hath known some, especially Children, that were saved, even after they had made black urine.

Concerning the *Contents* of Urine, they are, according to our Author, generally of three sorts, the Sediment, things hanging in the Middle, and things swimming on the Top, (called by the Greeks, *ὑπερσπυρσις, ἐναέριον* and *νεφέλη*;) according to the several degrees of the weight of such Contents. Of all which there is to be observed the *Substance, Colour, Uniformity, and Likeness*. For example, the best Sediment is, that which is moderate in substance and quantity, white, uniform, and alike both for matter and time. Discourling upon this head, he considers,

ders, out of what stuff the Sediment of diseased persons is made, with a reflexion on *Fernelius*? what is signified by urine that hath no such contents, or little? what by a copious Sediment? what by a broken, white, black, yellow, red, &c. Sediment? That we are not to look for a sediment in all diseases. Which Sediment is better, thin or thick? This done, he proceeds to the matter hanging in the *Middle*, and swimming on the *Top*, inquiring, what they signifie respectively; whether they note distempers of the middle and the highest part of the body, or not? Taking notice with several Authors, that little clouds on the uppermost surface of Urine, raised in the form of a ring, are a very ill sign in acute diseases, as fore-boding an imminent Phrensy, and death it self.

After this, he declares his opinion concerning the signification of some peculiar Contents in Urine; as Meal, Scales, Blood coagulated, purulent matter, ashes, slime, little pieces of seeming flesh, small hairs, woolly filaments, flying dust, damp, rough stuff adhering to the sides of the vessel, something like a spiders webb, bladders, froth, fat, or cream, Sand, and small Stones. Observing with *Fienus*, that such sand-grains as are bred *in the Body*, are found at the bottom of the Urinal presently after the water is made; but those that are produced *in the Urinal*, do adhere to the sides thereof, and appear not till a good while after the patient hath made water: And noting further, that such sand not sinking to the bottom, but sticking to the sides of the vessel, does not signifie the bodies disposition to the Stone, but the Liver's excessive heat, and a beginning of corruption in the Bowels; nor then necessarily, when they sink, because many do void these grains, and yet are never troubled with the stone: Though, when men cease to void them, and find pain, and make a whitish and thin urine, they then begin to breed the stone within. But then, to know by the sand, whether the stone be breeding in the Bladder, or in the Kidneys, he tells us, that if it be hard and red, 'tis in the latter; if hard and white, in the former. For the many other Contents of Urine, we must, for fear of too much prolixity, refer to the Author; only we cannot but take notice here of a relation, he alledges out of *Plempius* touching a woman of 70 years of age, who in her urine voided store of fat, as yellow as Holland-butter; and had, before that excretion, been troubled with an ague, upon the loss of which she evacuated this fatty matter for some weeks, some days more, some less, some none at all: But yet waxed not leaner, but rather more fleshy; which made *Plempius* conclude, that that fat came from the Kidneys, not from the whole body. *So much for the second part.*

The *third* is wholly taken up with a Confutation of two noted Physicians, *Forestus* and *Stratenius*, despising the inspectors of Urine, and declaring the Judgment, made of Diseases and their Causes and Seats by the Urine, to be uncertain and false. Of which, for want of room, we cannot particularise in this place.

Errata left un-corrected in Numb. 98.

P. g. 6148. l. 12. leg. *quam* pro *quoniam*. p. 6149. l. 40. l. g. *straight* lin. 5.

LONDON, Printed for *John Martyn*, printer to the R. Society, 1673.